

DRAFT EVALUATION REPORT
USDA Food Safety Inspection Service
Application #10878 - Plant #16478 (Site #B6478)
620 Central Avenue
Alameda, CA 94501

I. BACKGROUND

Food Safety Inspection Service (FSIS) is the public health agency in the U.S. Department of Agriculture responsible for ensuring that the nation's commercial supply of meat, poultry, and egg products is safe, wholesome, and correctly labeled and packaged. FSIS is applying for an Authority to Construct/Permit to Operate for the following:

S-1 Standby Diesel Engine
400 kW (602 HP), Kohler Generator, Model 400REOV with Nett Tech Diesel Filter, Volvo 12.1A65, 4.3 MMBTU/Hr

This engine will be used for standby electrical power during emergency situations. This project is subject to the public notification requirements of Regulation 2-1-412.

II. EMISSION CALCULATIONS

Per Division policy, non-emergency operation usage is counted towards emission calculations for standby engines. Operation during emergency events is not counted.

Annual Diesel Usage

Wt% sulfur = 0.05

Engine rating = 4.3 MMBTU/hour

Diesel heating value = 128,700 BTU/gallon

Horse power = 602

$$\left(\frac{\text{gallons}}{128,700 \text{ BTU}} \right) * \left(\frac{4.3 \text{ MMBTU}}{\text{hour}} \right) * \left(\frac{1\text{E}6 \text{ BTU}}{\text{MMBTU}} \right) * \left(\frac{50 \text{ hours}}{\text{year}} \right) = \frac{1,655 \text{ gallons}}{\text{year}}$$

Emission calculation for SO₂

$$\left(\frac{7.05 \text{ lb}}{\text{gal}} \right) * \left(\frac{\text{gal}}{128,700 \text{ BTU}} \right) * \left(\frac{4.3\text{E}6 \text{ BTU}}{\text{hour}} \right) * \left(\frac{50 \text{ hr}}{\text{year}} \right) * \left(\frac{\text{mole SO}_2}{\text{mole S}} \right) * \left(\frac{64 \text{ lb/mole SO}_2}{32 \text{ lb/mole S}} \right) * (0.0005) = \frac{12 \text{ lb of SO}_2}{\text{year}}$$

Emission calculation for PM, POC, CO and NO_x

$$(\text{Emission Factor}) * (602 \text{ hp}) * \left(\frac{50 \text{ hours}}{\text{year}} \right) * \left(\frac{\text{pounds}}{453.6 \text{ grams}} \right) = \frac{\text{X pounds}}{\text{year}}$$

Pollutant	Emission Factor, g/(bhp*hr)	Emissions, pounds/year
Particulate	0.05	3
POC	0.2	12
CO	0.4	27
NO _x	4.3	283
SO _x	NA	12

III. PLANT CUMULATIVE INCREASE (since 4/5/91)

This is a new facility. The following table shows the cumulative emissions increase.

Pollutant	Emissions, tons/year
Particulate	0.00
POC	0.01
CO	0.01
NO _x	0.14
SO _x	0.01

IV. TOXIC SCREENING ANALYSIS

A toxic risk screen was required for diesel particulate emissions. See Risk Screen memo from Glen Long for USDA Food Safety Inspection Service, P#16478, A#10878 dated January 7, 2005. This project passed the risk screen because the risk is below 10 in a million. The results of the risk screen show that the cumulative increase for Source 1 are the following:

Receptor	Cancer Risk in a Million
Residential	7.89
Industrial	5.24
St. Barnabas School	0.02

V. BEST AVAILABLE CONTROL TECHNOLOGY

Daily emissions of NO_x may exceed 10 pounds per highest day. Source 1 is required to comply with BACT2 emission requirements.

VI. OFFSETS

Offsets are not required since emissions are less than 15 tons per year.

VII. STATEMENT OF COMPLIANCE

The owner/operator is expected to meet the requirements of Regulation 6 for Visible Emissions and Regulation 9-8-330 for hours of operation. The owner/operator is expected to comply with monitoring and recordkeeping

requirements of Regulation 9-8-530, and Permit Condition #T.B.D. (outlined in Section VIII).

The engineering review is consistent with similar projects. Standard permit conditions were applied and standard emission factors were used in accordance with Permit Handbook, Chapter 2.3. This project is considered to be ministerial and therefore is not subject to CEQA review.

This project is within 1,000 feet from the following public school:

St. Barnabas Elementary School
1400 Sixth Street
Alameda, CA 94501

This project is therefore subject to the public notification requirements of Regulation 2-1-412. A public notice will be prepared and posted on the District's website. The notice will be mailed to all the parents and guardians of students enrolled at St. Barnabas Elementary School and all the residents located within 1,000 feet of the proposed location of the source. At the end of the 30-day public comment period, the District will respond to comments regarding this project.

PSD, NSPS, and NESHAPS are not triggered.

VIII. CONDITIONS

In addition to the requirements of Regulation 9, Rule 8 for Emergency Standby Engines, the owner/operator shall comply with the following conditions for Source 1 (Standby Diesel Engine).

1. The owner/operator shall comply with the requirements of Regulation 6, Particulate and Visible Emissions. [Basis: Cumulative increase, Toxic risk screen]
2. The owner/operator shall operate Source 1 with the Nett Tech Diesel Catalytic Purifier at all times per manufacturer's specifications. [Basis: Cumulative increase, Toxic risk screen]
3. The owner/operator shall operate Source 1 for no more than 50 hours in any consecutive 12-month period for the purpose of reliability-related activities. [Basis: Cumulative increase, Toxic risk screen]
4. The owner/operator shall fire Source 1 exclusively with diesel fuel having a sulfur content equal to or less than 0.05 percent by weight, as certified by the fuel oil vendor. [Basis: Cumulative increase, Toxic risk screen]
5. For each consecutive 12-month period, the owner/operator shall total the hours of operation for overall and emergency use for Source 1. [Basis: Recordkeeping]

IX. RECOMMENDATION

I recommend the Authority to Construct be issued to USDA FSIS for:

S-1 Standby Diesel Engine

*Fred Tanaka
Air Quality Engineer II
Engineering Division*

Date: _____